

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An optical disc ~~including a data area and a time map area,~~
which is readable by a reproduction apparatus, the reproduction apparatus being operable to read
a table and perform a random access reproduction of a video object by referring to the table, the
optical disc comprising:

a data area; and

a time map area,

wherein the video object is recorded in the data area, ~~recording a video object that~~
includes the video object including a plurality of data units, each of which contains at least one
picture,

wherein a the first picture of each of the plurality of data units being is an Intra Picture
that can be separately reproduced by the reproduction apparatus,

wherein the table, which is readable by the reproduction apparatus, is recorded in the time
map area, ~~recording a table and includes showing~~ recording addresses of the plurality of data
units, the recording addresses corresponding to a plurality of reproduction times that belong to a
period during which the video object is reproduced by the reproduction apparatus, each of the
plurality of data units containing a picture to be reproduced at a corresponding one of the
plurality of reproduction times, and

wherein the table recording data sizes of the Intra Pictures in correspondence with the
plurality of data units are recorded in the table.

2. (Currently Amended) The optical disc of Claim 1, further including

a program chain area that records a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

3. (Original) The optical disc of Claim 1, wherein

the table further records difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of the first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

4. (Currently Amended) A recording apparatus for recording video data onto an optical disc, the recording apparatus comprising:

an input unit operable to receive input video data to be recorded;

a compressing unit operable to compress the input video data and generate a video object containing a plurality of data units, each of which contains at least one picture, the a first picture of each of the plurality of data units being an Intra Picture that can be separately reproduced;

a writing unit operable to write data onto the optical disc; and

a control unit operable to control the writing unit, wherein

the control unit

(a) controls the writing unit to write the video object onto ~~the~~ a data area of the optical disc,

(b) generates a table showing recording addresses of the plurality of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the plurality of data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times, and

(c) controls the writing unit to write the table into a time map area of the optical disc.

5. (Original) The reproducing apparatus of Claim 4, wherein the optical disc further includes

a program chain area that records a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

6. (Original) The reproducing apparatus of Claim 4, wherein

the table further records difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of the first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

7. (Currently Amended) A recording method for use in a recording apparatus for recording onto an optical disc a video object containing a plurality of data units, each of which

contains at least one picture, the a first picture of each of the plurality of data units being an Intra Picture that can be separately reproduced, the recording method comprising the steps of:

writing the video object onto a data area of the optical disc;

generating a table showing recording addresses of the plurality of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the plurality of data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times; and

writing the table onto a time map area of the optical disc.

8. (Original) The recording method of Claim 7, wherein the optical disc further includes a program chain area that records a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

9. (Original) The recording method of Claim 7, wherein the table further records difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of the first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

10. (Original) A reproducing apparatus for reproducing the video object recorded on the optical disc defined in Claim 1, the reproducing apparatus comprising:

- a reading unit operable to read data from the optical disc;
- a reproducing unit operable to reproduce the video object; and
- a control unit operable to control the reading unit and the reproducing unit, wherein the control unit
 - (a) receives an instruction to reproduce at high speed,
 - (b) determines a plurality of reproduction times with a predetermined time interval in between, in accordance with the received instruction,
 - (c) controls the reading unit to read the table,
 - (d) refers to the read table and identifies, for each of the plurality of reproduction times, (a) a recording address and (b) a data size of an Intra Picture, and
 - (e) controls the reading unit and the reproducing unit to read and reproduce Intra Pictures corresponding to the plurality of reproduction times.

11. (Original) The reproducing apparatus of Claim 10, wherein the optical disc further includes

a program chain area that records a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

12. (Original) The reproducing apparatus of Claim 10, wherein the table further records difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of the first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

13. (Currently Amended) A reproduction method for use in a reproducing apparatus including (a) a reading unit operable to read data from the optical disc defined in Claim 1 and (b) a reproducing unit operable to reproduce a video object, the reproduction method comprising the steps of of:

- (a) receiving an instruction to reproduce at high speed,
- (b) determining a plurality of reproduction times with a predetermined time interval in between, in accordance with the received instruction,
- (c) controlling the reading unit to read the table,
- (d) referring to the read table and identifying, for each of the plurality of reproduction times, (a) a recording address and (b) a data size of an Intra Picture, and
- (e) controlling the reading unit and the reproducing unit to read and reproduce Intra Pictures corresponding to the plurality of reproduction times.

14. (Original) The reproduction method of Claim 13, wherein the optical disc further includes

a program chain area that records a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

15. (Original) The reproduction method of Claim 13, wherein
the table further records difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of the first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

16. (Currently Amended) A computer-readable recording medium recording a program for use in a recording apparatus for recording onto an optical disc a video object containing a plurality of data units, each of which contains at least one picture, ~~the a first picture of each of the~~ plurality of data units being an Intra Picture that can be separately reproduced, the program allowing a computer to execute the steps of:

writing the video object onto a data area of the optical disc;

generating a table showing recording addresses of the plurality of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the plurality of data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times; and

writing the table onto a time map area of the optical disc.

17. (Original) The computer-readable recording medium of Claim 16, wherein the optical disc further includes

a program chain area that records a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

18. (Original) The computer-readable recording medium of Claim 16, wherein the table further records difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of the first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

19. (Currently Amended) A computer-readable recording medium for use in a reproducing apparatus including (a) a reading unit operable to read data from the optical disc defined in Claim 1 and (b) a reproducing unit operable to reproduce a video object, the program allowing a computer to execute the steps of of:

- (a) receiving an instruction to reproduce at high speed,
- (b) determining a plurality of reproduction times with a predetermined time interval in between, in accordance with the received instruction,
- (c) controlling the reading unit to read the table,

(d) referring to the read table and identifying, for each of the plurality of reproduction times, (a) a recording address and (b) a data size of an Intra Picture, and

(e) controlling the reading unit and the reproducing unit to read and reproduce Intra Pictures corresponding to the plurality of reproduction times.

20. (Original) The computer-readable recording medium of Claim 19, wherein the optical disc further includes

a program chain area that records a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

21. (Original) The computer-readable recording medium of Claim 19, wherein the table further records difference times, each of which corresponds to one of the plurality of reproduction times and is a difference between the one of the plurality of reproduction times and a reproduction time of the first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.